

May 16, 1997



97-154

Mr. Stein Buer
Department of Water Resources
P. O. Box 942836
Sacramento, CA 94236-0001

Dear Stein:

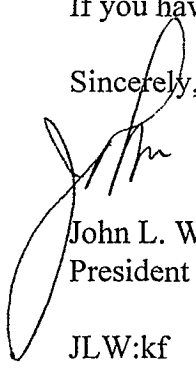
I finally have the information that I promised you regarding modeling of the hydraulic barrier concept in Georgiana Slough. It is very sketchy, but I am sure that anyone who can work a link node model can replicate the same work. Simply connect an appropriate node in the Sacramento River with one in Georgiana Slough at a location of your choice and vary that pump flow rate to achieve the desired results in the upper and lower ends of Georgiana Slough. You will find that connecting nodes closer and closer to the bifurcation of the Sacramento River and Georgiana Slough will require less flow to develop the hydraulic barrier, but it will also reduce the net impact of flow out of Georgiana Slough on the south end.

Don't overlook the importance of the flow restrictors at the upper end of Georgiana Slough. By reducing the channel cross-section area by one third, RMA believes that you will create a 0.1 foot head loss at a channel flow velocity of 1.0 foot per second. As you can see, as the Sacramento River reaches capacity, four or five flow restrictors could produce meaningful reductions in flood flows through Georgiana Slough. Maybe more importantly, the restrictors would allow more of the pumped water that produces the hydraulic barrier to exit at the south end of Georgiana Slough.

I also think that your thought to stage this concept is very practical. I would not try to start anywhere at less than 1,000 cfs of pumped flow.

If you have any questions, please let me hear from you.

Sincerely,



John L. Winther
President

JLW:kf
Enclosures

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